

WHAT IS CLAIMED IS:

1. A signal recording medium having a plurality of recording layers,

5 each of said recording layers has tracks for recording information, and

said tracks have a wobbling structure in which said tracks are wobbled at different periods for the respective recording layers.

2. A medium according to claim 1, wherein the 10 wobbling periods of said tracks of said recording layers have a multiple relationship.

3. A medium according to claim 1, wherein said recording layers comprise a reference layer and another layer, said reference layer having tracks wobbled at 15 a predetermined period and said other layer having tracks phase-modulated at a specific period.

4. A medium according to claim 1, wherein said tracks comprise land tracks and groove tracks, and a signal is recorded on only said groove tracks.

20 5. A medium according to claim 1, wherein said tracks comprise land tracks and groove tracks, and a signal is recorded on both said land tracks and said groove tracks.

25 6. A signal recording method of recording a signal on a signal recording medium having a plurality of recording layers, each of the recording layers having tracks for recording information, and the tracks

having a wobbling structure in which the tracks are wobbled at different periods for the respective recording layers, comprising:

5       in recording the signal on a target recording layer of the signal recording medium, detecting the wobbling period of the track parallel to signal recording, and upon detecting a change in wobbling period during signal recording, determining on the basis of the detection result that movement from the target recording layer occurs, and stopping the recording operation.

7. A signal recording apparatus for recording a signal on a signal recording medium having a plurality of recording layers, each of the recording layers having tracks for recording information, and the tracks having a wobbling structure in which the tracks are wobbled at different periods for the respective recording layers, comprising:

20       detection means for, in recording the signal on a target recording layer of the signal recording medium, detecting the wobbling period of the track parallel to signal recording; and

25       recording operation control means for, upon detecting a change in wobbling period during signal recording, determining on the basis of the detection result that movement from the target recording layer occurs, and stopping the recording operation.

8. A signal recording/reproducing apparatus for recording a signal on a signal recording medium having a plurality of recording layers, each of the recording layers having tracks for recording information, and the tracks having a wobbling structure in which the tracks are wobbled at different periods for the respective recording layers, comprising:

10 detection means for, in executing recording/reproducing processing for a target recording layer of the signal recording medium, detecting the wobbling period of the track; and

15 operation control means for confirming on the basis of the detection result that the target recording layer is being accessed, and executing processing.

20 9. An apparatus according to claim 8, wherein said operation control means comprises

recording operation control means for, in recording the signal on the target recording layer of the signal recording medium, detecting the wobbling period of the track parallel to signal recording, and upon detecting a change in wobbling period during signal recording, determining on the basis of the detection result that movement from the target recording layer occurs, and stopping the recording operation, and

25 reproducing operation control means for, in reproducing the signal from the target recording layer

of the signal recording medium, detecting the wobbling period of the track parallel to signal reproduction, and upon detecting a change in wobbling period during signal reproduction, determining on the basis of the 5 detection result that movement from the target recording layer occurs, and stopping the reproducing operation.

10. A signal recording medium having a plurality of recording layers,

10 each of said recording layers has tracks for recording information, and

15 said tracks have a wobbling structure in which said tracks are wobbled at different periods every round.

15 11. A signal recording/reproducing apparatus for recording a signal on a signal recording medium having a plurality of recording layers, each of the recording layers having tracks for recording information, and the tracks having a wobbling structure in which the tracks 20 are wobbled at different periods every round, comprising:

25 detection means for, in executing recording/reproducing processing for a track of an nth round of the signal recording medium, detecting the wobbling period of the track; and

operation control means for confirming on the basis of the detection result that the track of the nth

round is being accessed, and executing processing.

12. An apparatus according to claim 11, wherein  
said operation control means comprises

recording operation control means for, in  
5 recording the signal on the track of the nth round of  
the signal recording medium, detecting the wobbling  
period of the track parallel to signal recording, and  
upon detecting a change in wobbling period during  
signal recording on the track of the nth round,  
10 determining on the basis of the detection result that  
movement from the track of the nth round occurs, and  
stopping the recording operation, and

reproducing operation control means for, in  
reproducing the signal from the track of the nth round  
15 of the signal recording medium, detecting the wobbling  
period of the track parallel to signal reproduction,  
and upon detecting a change in wobbling period during  
signal reproduction from the track of the nth round,  
determining on the basis of the detection result that  
20 movement from the track of the nth round occurs, and  
stopping the reproducing operation.